

CLAIMS

What is claimed is:

- 1           1.     A fault tolerant data storage system comprising:  
2                 a plurality of coupled components individually including:  
3                     an interface adapted to couple with a data connection and to  
4 selectively receive a plurality of transactions from the data connection;  
5                     transaction processing circuitry coupled with the interface and  
6 configured to process transactions received from the interface; and  
7                     analysis circuitry configured to detect error conditions within  
8 the transactions and to prevent entry of transactions individually including an  
9 error condition into the respective component responsive to the detection.
- 1           2.     The system in accordance with claim 1 wherein the analysis  
2 circuitry is configured to disable the interface responsive to the detection of the  
3 error condition.
- 1           3.     The system in accordance with claim 1 wherein the analysis  
2 circuitry comprises logic circuitry configured to set an enable signal to control  
3 the reception of transactions within the interface.
- 1           4.     The system in accordance with claim 1 wherein the analysis  
2 circuitry is configured to control passage of the transactions to the interface  
3 responsive to the detection of the error conditions.
- 1           5.     The system in accordance with claim 1 wherein the analysis  
2 circuitry is configured to determine the type of error conditions and permit  
3 selective entry of corresponding transactions responsive to the determination.

1           6.     The system in accordance with claim 1 wherein the interface is  
2 adapted to couple with the data connection coupled with an interface of another  
3 component.

1           7.     The system in accordance with claim 1 wherein the analysis  
2 circuitry is configured to communicate the detection of the error conditions.

1           8.     The system in accordance with claim 1 wherein the analysis  
2 circuitry of one component is configured to communicate the detection of the  
3 error conditions to other components.

1           9.     A method of operating a fault tolerant data storage system  
2 comprising:  
3           providing a fault tolerant data storage system including a plurality of  
4 components configured to process transactions;  
5           providing the transactions for communication to respective  
6 components;  
7           detecting error conditions within the transactions; and  
8           preventing entry of transactions which individually include an error  
9 condition into respective components responsive to the detecting.

1           10.    The method in accordance with claim 9 wherein the preventing  
2 entry comprises disabling interfaces of the respective components.

1           11.    The method in accordance with claim 9 wherein the preventing  
2 entry comprises selectively preventing entry of transactions which individually  
3 include an error condition into the respective components.

1           12.    The method in accordance with claim 9 further comprising  
2 determining the types of error conditions and wherein the preventing entry

3 comprises selectively preventing entry of transactions responsive to the  
4 determining.

1 13. The method in accordance with claim 9 further comprising  
2 communicating the detecting of the error conditions.

1 14. A method of operating a fault tolerant data storage system  
2 comprising:  
3 providing a fault tolerant data storage system including a plurality of  
4 coupled components configured to process transactions;  
5 communicating transactions intermediate coupled components;  
6 detecting an error condition within one of the transactions; and  
7 isolating the component which outputted the transaction including the  
8 error condition responsive to the detecting.

1 15. The method in accordance with claim 14 wherein the  
2 communicating comprises communicating using interfaces of the components.

1 16. The method in accordance with claim 15 wherein the isolating  
2 comprises disabling the interfaces of the components coupled with the  
3 component which communicated the transaction including the error condition.

1 17. The method in accordance with claim 14 further comprising  
2 communicating the detection of the error condition.

1 18. The method in accordance with claim 14 further comprising  
2 determining the type of the error condition and wherein the isolating comprises  
3 selectively isolating responsive to the determining.

1 19. The method in accordance with claim 14 wherein the providing  
2 comprises providing a RAID fault tolerant data storage system.

- 1           20.   The method in accordance with claim 14 further comprising
- 2   processing transactions using the components after the isolating.